



CITRUS BUDWOOD

Annual Report

2015-2016



2016 ANNUAL REPORT

63 Years 1953 - 2016

Bureau of Citrus Budwood Registration

July 1, 2015 – June 30, 2016

Bureau of Citrus Budwood Registration

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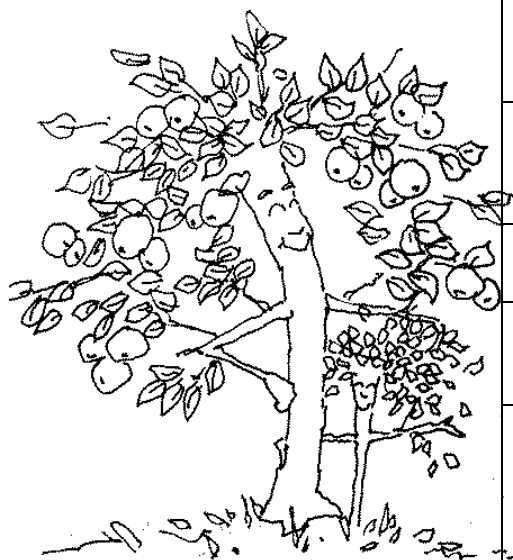


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Dr. Trevor Smith, Director
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Our Vision

The Bureau of Citrus Budwood Registration will be diligent in providing high yielding, pathogen tested, quality budlines that will positively impact the productivity and prosperity of our citrus industry.

Our Mission

The Bureau of Citrus Budwood Registration administers a program to assist growers and nurserymen in producing citrus nursery trees that are believed to be horticulturally true to varietal type, productive, and free from certain recognizable bud-transmissible diseases detrimental to fruit production and tree longevity.

Annual Report 2016

Bureau of Citrus Budwood Registration
Ben Rosson, Chief

This is the 63rd year of the Citrus Budwood Registration Program which began in Florida in 1953. Citrus budwood registration and certification programs are vital to having a healthy commercial citrus industry. Clean stock emerging from certification programs is the best way to avoid costly disease catastrophes in young plantings and their spread to older groves. Certification programs also restrict or prevent pathogens from quickly spreading within growing areas. Regulatory endeavors have better prospects of containing or eradicating new disease outbreaks if certification programs are in place to control germplasm movement.

Budwood registration has the added benefit in allowing true-to-type budlines to be propagated. The selection of high quality cultivars for clonal propagation gives growers uniform plantings of high quality trees. The original mother stock selected for inclusion in the Florida budwood program is horticulturally evaluated for superior performance, either by researchers, growers or bureau staff. Horticultural evaluation is just as vital as pathogen testing of budwood sources to the success of the program. The average time from entering a tree in the bureau's cleanup and testing program to release back to growers has been reduced from 30 months to 15 months in the past six years.

Prior to a Citrus Budwood Registration Program in Florida, many commercial groves had problems with low production. The selection of high quality parent trees and the development of nucellar sections improved the quality of the fruit along with the production per acre. Selecting superior trees and plants has been a fundamental concept in horticulture ever since man started cultivating crops. The Florida budwood program was responsible for bringing outstanding citrus selections together in one location, which made valuable germplasm accessible to the public. The Florida program has made thousands of parent tree selections over the years and maintains the Florida Citrus Arboretum which currently showcases 291 trees including unique and historical varieties. Budwood for distribution to growers is kept at Chiefland in protected greenhouses outside the geographic bounds of commercially grown citrus.

The bureau's Citrus Germplasm Introduction Program (CGIP) has been operating out of its new facility at LaCrosse for a little over two years now. Phase two consists of additional laboratory and greenhouse space for the bureau to back up part of the Chiefland Foundation collection, grow off clean shoot-tip grafted material, perform rootstock micro propagation and multiply new introductions for industry release.

Chiefland Foundation by the Numbers

- 10th year of operation
- 418,403 bud eyes cut and distributed in 2015-2016
- Over 3.2 million bud eyes dispensed since 2008
- 3 acres of greenhouses contain 2,055 citrus trees
- 783 different clonal selections representing 599 different varieties are maintained
- 59 customers received budwood this year
- Budwood was cut on 150 different days to fill 365 individual orders
- 45 Florida commercial citrus nurseries which represent 83 percent of the Florida citrus nurseries received budwood this year

The Citrus Budwood Technical Advisory Committee (CBTAC) met this year to discuss the current supply and demand of budwood and seed material. This was in response to some industry perception that there is a shortage of budwood and seed (for rootstock). It was agreed that a subcommittee would be formed to evaluate the needs of certain varieties and rootstocks housed at the Chiefland facility. This committee met in November and began the process of decreasing the number of varieties and clones not currently being utilized. This subcommittee will plan on meeting at least once a year. The CBTAC also conversed on the seed shortage problem which led into the new tissue culture regulations being put into place to alleviate the lack of seed production issues.

Fifty-four citrus nurseries propagated 4,344,446 trees. Based on reports, tree production decreased by 93,682 trees which is -2.11% from last year. Twenty-four existing nurseries continued a decline in budding and tree orders. On a positive note, twenty-five nurseries had an increase in production from the previous year.

The top varieties propagated in nurseries this year were:

Oranges

- Valencia
- Hamlin
- Vernia
- Sweet Orange

Grapefruit

- Ray Ruby
- Ruby Red
- Flame Gft
- Rio Red Gft

Mandarin

- Early Pride
- Sugar Belle
- WG Mandarin
- Bingo

Kuharske, X-639, Sour Orange and US-897 were the top used rootstocks. Nontraditional and newer rootstocks created the most excitement this year and were widely sought after. The newer experimental rootstock seed was non-existent or in short supply. Citrus canker-contaminated seed caused problems in several nurseries and re-treating of seed before planting is recommended.

At the end of the fiscal year, there were 3,387 budwood scion trees and 9,248 seed source trees in the program. Scion tree movement was witnessed on 47 days with 4,329 new trees planted. There were 3,975 seed source trees planted and 354 scion trees planted.

An ongoing trend of a high number of new Florida parent candidate trees being entered into the budwood program continues this year. Citrus breeding programs are urgently searching for germplasm that will have increased tolerance to citrus greening.

Because germplasm that enters the program is usually infected while undergoing field trials, shoot-tip grafting is required to remove the pathogens, followed by complete testing for endemic graft-transmissible diseases.

- 56 new candidates were entered into parent-tree testing in 2015-2016
- 89 parents completed shoot-tip grafting/testing and were released this year
- 39,026 qPCR tests were run at the bureau's Winter Haven laboratory this year
- 320% increase in new Florida parent candidate releases in the past 5 years compared to the 5 years previous

Bureau of Citrus Budwood Registration Staff Members			22 Full time employees (FTE), 5 OPS positions Winter Haven 14 FTE, 2 OPS Chiefland 4 FTE, 2 OPS LaCrosse 3 FTE, 1 OPS	
Name	Years	Position Title	Winter Haven 863-298-(extension)	
WINTER HAVEN BUDWOOD OFFICE STAFF			Area of Responsibility	Contact Ext.
Griffith, Julianne	2	Administrative Secretary	Receptionist & fiscal records	3041
Ezell, Justin	*	Assistant Bureau Chief	Program administration	3042
Ouellette, Karen	3	Management Analyst II	Bud cutting & scion tree records	3045
GREENHOUSE				
Vacant		Environmental Specialist I	Greenhouse manager	3051
Jusino, Mercedes	18	Laboratory Technician II	Greenhouse caretaking	3051
Roth, Meta	15	Agricultural Technician III	Greenhouse caretaking	3051
GROVE STAFF				
Bouie, James	12	Groundskeeping Supervisor II	Arboretum caretaking	
Mathis, Robert	16	OPS Agricultural Technician II	Part-time Arboretum caretaking	
Potts, Melvin	15	Plant Protection Specialist	Building maintenance	
INSPECTION				
Lebron-Rivera, Ana	7	Environmental Specialist I	Inspection & scion tree witnessing	3043
LABORATORY				
Boles, Sandra	4	Biological Scientist IV	Lab manager	3047
Stillinger, Eva	1st	OPS Laboratory Technician I	Part-time lab and greenhouse duties	
Litten, Louisa	11	Biological Scientist III	Shoot-tip grafting	3044
Monroe, Kaleigh	2	Laboratory Technician IV	Assisting parent tree cleanup & virus readings	
Zipprer, David	2	Biological Scientist III	PCR testing	3047
Sieburth, Peggy	20	Biological Administrator III	Winter Haven & LaCrosse lab oversight	3046
LA CROSSE STAFF			CITRUS GERMPLASM INTRODUCTION PROGRAM	
Vacant		Biological Scientist IV-SES	Program Manager	352-395-4997
Hoskinson Patrick	1st	OPS Laboratory Technician I	Facility maintenance	352-395-4996
McElroy, Bryan	*	Laboratory Technician IV	Greenhouse growing	352-395-4991
Helseth, Kristen	1st	Biological Scientist III	Shoot-tip grafting, biological indexing	352-395-4756
Coleman, James	1st	Biological Scientist IV	Facility manager	352-395-4994
CHIEFLAND STAFF			CITRUS BUDWOOD FOUNDATION	
Brady, Robert	2	Environmental Specialist I	Greenhouse caretaking & budwood cutting	352-493-6801
Lowe, Malorie	1st	Secretary Specialist	Receptionist & budwood orders	352-493-6801
McCaskill, Marc	7	Environmental Specialist I	Greenhouse caretaking & budwood cutting	352-493-6801
Miller, James	2	OPS Agricultural Technician II	Part-time budwood cutting	352-493-6801
Horlacker, Dakota	1st	OPS Agricultural Technician II	Part-time budwood cutting	352-493-6801
Rosson, Ben	10	Bureau Chief	Chiefland administrator	352-493-6801
* Previous DPI service				
Citrus Budwood Technical Advisory Committee Members				
Representative				
Grower	Nursery		Regulatory	Research
Bryan Belcher	Jim Brewer		Dr. Susan Halbert	Dr. Kim Bowman
Peter Chaires	John Gose		Dr. Peggy Sieburth	Dr. Fred Gmitter
Tom Hammond	Nate Jameson		Ben Rosson	Dr. Mark Hilf
Peter McClure	Phillip Rucks*		Justin Ezell	Dr. Bill Dawson
Michael Stewart	Tommy Thayer			
*Committee Chairman Committee met 9/4/2015				

PARTICIPANTS REPORTING PROPAGATIONS

Florida Citrus Nurseries

Fifty-four active Florida citrus nurseries reported making propagations in the 2015-2016 fiscal year

PART#	PARTICIPANT NAME	NUR TYP	PART#	PARTICIPANT NAME	NUR TYP
0965	A.V.A. Citrus Nursery, LLC	C	0355	Holmberg Farms, Inc.	C, DY
0970	Agri Masters Citrus Nursery, LLC	C	0795	Just Fruits & Exotics, Inc.	DY
0963	Agri-Starts, Inc.	TC	0199	Lykes Citrus Division	C
0968	Agromillora Florida, Inc.	TC	0683	M & M Nurseries, Inc.	C
0888	James H. Albritton	OU	0882	Jerry B. McGill	C
0966	Alico Citrus Nursery, LLC	C	0959	Melton Family Grove, LLC	C
0821	Robert J. Barben, Inc.	C	0952	Murphy Citrus Nursery, Inc.	C
0955	Blue Heron Nurseries, LLC	C	0738	Orange-Co a Division of Alico, Inc.	C
0805	Brewer Citrus Nursery	C	0817	Petteway Growers	C
0876	Brite Leaf Citrus Nursery, LLC	C	0384	Philmon Citrus Nursery	C
0969	Citrific	C, TC	0535	Pokey's Lake Jem Citrus Nursery	C
0960	CitriSun Nurseries, LLC	C	0625	Rasnake Citrus Nursery	C
0922	Henry Crutchfield, Inc.	C	0778	Reclamation Trees	C
0913	Cutrale Farms, Inc.	C	0832	Record Buck Farms, Inc.	DY, WHSL
0851	Darryl's Family Citrus Nursery, Inc.	C	0721	Phillip Rucks Citrus Nursery, Inc.	C, TC
0961	Dilley Citrus Nursery, Inc.	C	0962	Sawmill Citrus Nursery, LLC	C
0799	K & C Farmer Citrus Nursery, Inc.	C	0967	SFMLM Nursery (Mosaic)	C, OU
0300	Farkas & Fussell Citrus Nursery	C	0033	Southern Citrus Nurseries, LLC	C
0246	Farkas Citrus Nursery II, LLC	C	0700	Southern Gardens Citrus Nursery, LLC	C
0801	Fiddler's Ridge Farms, Inc.	C	0753	Southridge Citrus Nursery, Inc.	C
0728	Flood Clinch Lake Nursery	C	0948	Sun Ag LLC	C
0702	Floyd & Associates, Inc.	C	0750	Tiger Creek Citrus Nursery	C
0519	Ben Hill Griffin, Inc.	C	0740	Timmermann's Citrus Nursery	C, DY
0929	Gose Growers, Inc.	C	0214	W.A. Williams Citrus Nurs. & Svc., Inc.	C
0522	W. E. Green & Sons Citrus Nursery	C	0920	W.W. Citrus Nursery	C
0773	Harris Citrus Nursery	C, DY	0001	Wards Nursery, Inc.	C
0433	Himrod Citrus Nursery, Inc.	C	0528	Richard Wright Citrus Nursery	C

C = Commercial

OU = Own use

DY = Dooryard

WHSL = Wholesale

RE = Research

ST = Source trees only

TC = Tissue culture or micro-propagation

Florida has 83 registered participants in the Citrus Budwood Program.

Research Agencies Propagating

1001	DPI - Budwood Registration - WH	RE
1004	UF - CREC	RE
1006	DPI - Chiefland Foundation	RE
1008	USDA - FT. Pierce	RE
1101	UF – University of FL – Gainesville	RE

4,344,446 propagations were made by commercial citrus nurseries in 2015-2016

10,650 propagations were made by research agencies in 2015-2016

1,620 bud eyes were distributed out of state in 2015-16.

25,347 bud eyes were used for top-working commercial groves in 2015-2016 (not used in report calculations)

Rule Chapter 5B-62 was updated 4/30/2016

Highlights of a few of the changes:

- New seed extraction and treatment requirements were added to 5B-62.028.
- Requirements for micro-propagation or tissue culture were added to 5B-62.029.
- The number of trees exempted in retail sales outlets was reduced to 250.
- Citrus breeding programs' evaluation trees are allowed to be planted in the originating block without testing.

Citrus Nursery Activity

Nursery propagations starting this fiscal year are counted by amount budded instead of amount cut. When the amount budded is unknown the amount cut figure is used. The database field is labeled amount reported.

4,344,446
Nursery
Propagations
made in
2015-2016

54 Active
Nurseries

Nursery Size	Number of Nurseries					
# of Propagations	2016	2015	2014	2013	2012	2011
<1,000	4	3	3	3	2	4
1,000-10,000	18	11	9	7	7	5
10,000-25,000	6	9	9	8	8	7
25,000-50,000	6	10	8	7	10	8
50,000-75,000	3	5	5	5	8	6
75,000-100,000	4	4	5	5	1	3
100,000-200,000	8	6	6	6	3	3
200,000-400,000	3	4	5	4	7	5
400,000-600,000	1	1	2	3	1	1
>600,000	1	1	0	0	0	0
	54	54	52	48	47	42

	2016	2015	2014	2013	2012	2011
Number Propagations Reported	4,344,446	4,438,128	4,712,439	4,700,728	3,941,049	3,135,326
Propagations Change by	(93,682)	(274,311)	11,711	759,679	805,723	134,140
Percent Change increase or (decrease)	(2.11)%	(5.8)%	.3%	19.3%	25.7%	4.5%
Nurseries Increasing Production	25	15	25	18	26	22
Nurseries Decreasing Production	24	33	21	24	14	17
New or Resumed Production	3	6	5	6	7	3
Nurseries Not Propagating	2	4	1	4	2	6
Average # of Propagations per Nursery	80,452	82,188	90,624	97,932	83,672	74,517

Budwood Source Trees

Scion Trees

New Scion trees must originate from Chiefland foundation budwood

Category	Number Trees		#Scion Blocks (Not Including Research Participants)	2016	2015
	2016	2015			
Seed Source	9248	6,254	Participants with Scion Blocks	37	33
Budwood Scion	3387	4,093	Number of Scion Blocks (Budwood)	46	43
Sweet Orange	2553	3,135	Number of Scion Blocks (Seed)	44	30
Grapefruit	189	269			
Mandarin	434	452	#Bud eyes cut (Not Including Research Participants)	2016	2015
Lemon/Lime	127	130	Foundation *	377,585	509,902
Pummelo	19	36	Scion	1,529,253	2,019,963
Kumquat	40	31	Increase	2,593,873	1,908,263
Other	25	40	* The figures from the database may be lower or higher than the figure actually cut from Chiefland.		
Total	12,642	10,347			

Increase Trees

Increase trees can only originate from scion trees or Chiefland Foundation budwood

Approved increase blocks shall be used as a source of propagation material for a period of up to 36 months from budding without further testing. Use the BCR-number of the original Source Tree Bud Cutting Report that established the block to identify the origin of the propagations every time the increase block is cut. Each BCR that establishes an increase block is considered a separate increase block.

Label the Increase Trees with the Originating BCR#

Chiefland Budwood Foundation Trees

2.9 acres

Bud Cutting & Statistics	2016	2015	2014	2013	2012	2011	2010	2009
First quarter B/W Cut	163,890	171,189	158,717	168,972	184,772	140,914	36,778	18,685
Second quarter B/W Cut	82,326	95,992	109,876	105,599	69,430	45,101	40,530	27,764
Third quarter B/W Cut	95,933	117,581	112,155	102,533	96,519	84,119	51,742	32,287
Fourth quarter B/W Cut	76,267	130,102	96,307	151,659	164,28	115,196	112,600	54,253
Total # bud eyes cut	418,403	514,864	477,055	528,763	515,007	385,330	241,650	132,989
Revenue from Budwood sales	\$71,271.94	\$110,194.19	\$114,382.10	\$135,199.47	\$119,926.40	\$96,052.62	\$55,395.71	\$28,290.27
Difference cut from previous year	(96,461)	37,809	(51,708)	13,756	129,677	143,680	108,661	91,768
% increase/decrease of B/W cut from previous year	19	7.9	(9.8)	2.7	34	59	82	223
% of all budwood originating from CH	9.5	11.5	9.4	11.1	12.9	12.1	8.1	3.7
# Total trees	2055	1,795	1,559	1,322	1,105	1,160	1,091	971
# Varieties	599	425	390	379	309	316	299	288
# Clones	783	609	525	476	390	370	338	321
# Varieties cut	206	186	186	139	130	114	125	139
# Clones cut	290	229	230	157	150	124	135	145
# Trees cut	685	614	538	451	460	441		
# Trees Planted	138	302	253	250	54	105	120	
# Customers	61	46	51	41	37	31	36	34
FL Nurseries customers	59	39	43	36	34	26	29	23
# Days B/W cut	150	156	137	127	121	96	78	55
# B/W cuttings	365	342	294	241	238	176	185	102

First budwood cutting 1/10/2008

3,255,282 Total buds cut 2008 – 2016

The bud cut figures from the database may be lower or higher than the figure actually cut from Chiefland. On page 7 the figures are used from the database so that the percentages relate to what was actually reported during the fiscal year. Some Bud Cutting Reports from the previous fiscal year were received after the cutoff date and were entered into the following year's database. The Chiefland figures used on this page are the actual number of bud eyes cut from Chiefland during that fiscal year. This is why the figure is slightly higher than the number in the database and that is reported on page seven. Bud Cutting Reports are normally accepted until July 15, after which the database is closed and any straggler reports are entered into the following year's database.

Citrus Types Represented	# Trees	% of the Repository	# of different selections	Bud Eyes Cut	% Cut of total
Sweet Orange	882	42.9%	135	347,872	67.6%
Mandarin	477	23.2%	177	115,702	22.5%
Grapefruit	120	5.8%	36	25,966	5.0%
Lemon & Lime	96	4.7%	53	11,616	2.3%

	Rootstocks	284	13.8%	100	6,317	1.2%
	Pummelo	116	5.6%	56	4,587	0.9%
	Others	80	3.8%	52	2,804	0.5%
Origin of Chiefland Sources		Total Trees	# Clones	# Restricted Cultivars	292 of the cultivars at Chiefland have propagation restrictions. All varieties are restricted until released.	
	USDA origin	523	240	117		
	University of Florida	554	257	209		
	CGIP origin	201	46	20		
	Other sources	777	157	1		
Chiefland budwood qualifies for use as increase budwood for up to 36 months. These trees can become qualifying scion trees if witnessed by DPI inspectors into an approved structure and tested.						

Budwood Availability Chart

Scion & Foundation Cultivars

Budwood can only be sold to registered Florida citrus nurseries or citrus research agencies. Some varieties are unavailable as they are not yet released and others may only be available to nurseries with license agreements. *# Part = the number of program participants having a specific clonal selection.

. Budwood Availability		Scion Trees		Foundation Trees	
Variety Clone	# Part*	# Trees	B/W Cut	Trees	Amt Cut
Abers S/O US 8-35				1	
Acid Fruit Hyb UF C4-15-8				2	
Acid Fruit Hyb UF C4-3-35				1	
Acid Fruit Hyb UF C4-5-20				1	
Acid Fruit Hyb UF C4-8-40				2	
Akay Sekeri 3-3-10				1	
Ambersweet US 10-14-65	1	1	756		
Ambersweet US 10-5-65	2	2		3	1,505
Ann Satsuma 911	1	1	1,008		
Assam Lemon DPI-203-15	1	5	1,074		
Atalantia US 11-8-76				1	
Baboon Le US 2-25	1	6		1	50
Bahianinha Navel US 9-6-47				11	
Barao UF 135				1	
Bearss Le SPB-341-95-33	6	9	3,516	7	
Benton UF				1	
Bergamot US 9-12-15				1	105
Bigaradier Apepu S/O US 13-				1	
Bittersweet SPB-400-40-179N				1	
Bloomsweet Gft DPI-50-38-1				1	
Blue Lake Orange 956-2	1	3		1	
Bouquet De Fleurs UF 18				1	
Brazilian Le US 3-18				1	
Brown Select Sat 61-0-1	3	12	2,166	3	1,487
Budd B/O DPI-82	3	4	105	3	5
Buddhas Hand F-8-7	1	1		1	85
Burgundy Gft 416-7-1				1	
C excelsa US 60-169-502				1	24
C Ivo Tangor US 9-1-23				1	
C latipes DPI-203	1	9			
C macrophylla DPI-226				1	6
C micrantha UF				1	
C moi F-11-8W				1	
C neaurantium DPI-50-46				1	1
C tachibana US 1-67				1	
C-146 UF				2	150
C-22 Bitters UF				2	150
C5282 CGIP-153				2	
C-54 Carpenter UF				2	225
C-57 Furr UF				2	225
Cadenera US 5-15				1	
Calamandarin F-9-14				1	
Calamondin DPI-555	3	8	2,312	4	170
Cameron Le US				1	
Cara Cara Navel CGIP-104	6	32	12,299	17	11,742
Carrizo F-52-16				3	84
Carvalho 3-3-37				1	
Centennial Kum US	1	2	403	2	101
Changsha + Benton UF 18-9-6				2	
Changsha US 9-12-9				1	50

. Budwood Availability		Scion Trees		Foundation Trees	
Variety Clone	# Part*	# Trees	B/W Cut	Trees	Amt Cut
Chinese Pum UF 5-17				1	
Chinotto S/O US 8-41	1	2	756	1	
Cipo US 10A-7-10				1	
Citr C-32 US				1	
Citr C-35 F-24-10				1	127
Citrangquat Hyb US 10-3-4				1	
Citron DPI-201				1	
Citrum F-80-6				1	
Citrum F-80-8				1	
Citrum F-W-4				1	
Clem X Yuzu DPI-50-38-2				1	
Clementine US	1	1		1	50
Cleopatra F-1-7				2	110
Cocktail Gft DPI-50-38-5				1	
Crassifolia Kum CGIP-105				1	
Crisafulli Navel DPI-221-1				1	65
Daisy CGIP-120	1	1		5	30
Dancy F-59-8	8	15	6,532	3	130
Dancy UF 12-32				3	
Delta CGIP-118				2	
Dickinson 595	1	0	110	1	
Disticha DPI-50-24				1	
Dobashi Sat DPI-50-28				1	
Dream Navel DPI-58	1	3		5	60
Duncan Gft DPI-228-2	1	3	6		
Duncan Gft F-56-33	1	2		3	5
Duncan Gft F-57-19	4	7	1,647	2	1,813
Dweet Tangor F-8-18				1	
Early Pride US 1-62-122	3	10	10,499	6	6,166
Earlygold UF 33-4	5	16		2	355
Ellendale DPI-84-11-32				1	5
Eloise CGIP-155				1	
Enterprise 609-14-17				1	
Erem X Shek US 3-67				1	
Eremocitrus US				1	
Escondido Le UF				1	
Etrog Citron DPI-223-861				1	22
Eureka Le DPI-	3	8	5,109	2	2,062
Eureka Le UF 3-27	1	3	120	1	747
Eustis Lqt US 16-6-12				1	
Everbearing Le US 9-1-64				1	
Fairchild US 6-8				4	
Fallglo US 10-61-3	6	15	8,688	3	10,487
Faustrimedini DPI-205-3				1	
Fertic Te DPI-216	1	4		3	
Fina Sodea Clem CGIP-123	1	1		5	
Finger Lime DPI-205-1	2	3			
Finger Lime DPI-50-36 Trial	1	1		3	700
Finger Lime Giant DPI-205-4	2	2		3	600
Fisher Navel CGIP-135				2	40
Flame Gft US 1-26-71	8	22	5,711	7	1,300

. Budwood Availability	Scion Trees			Foundation Trees	
Variety Clone	# Part*	# Trees	B/W Cut	Trees	Amt Cut
Flying Dragon US				3	54
Folha Murcha UF 211				1	
Fortune US 9E-10-23				1	5
Foster Gft 65-1-8-27				1	
Fremont US 6-49	1	1	90	1	
Fukumoto Navel CGIP-133				2	
Furr LS UF 18A-10-11				3	
Furr LS UF B-A-32.5				2	
Furr ST 61-1-25				5	
Gardner US 6-16				3	
Gillets UF				1	
Glen Navel F-56-11	12	117	65,769	55	20,585
Glen Navel F-56-12	1	1	816		
Gold Nugget CGIP-139	1	2		4	
Goutou US-3				1	
Grapefruit Hyb UF P1				1	
Grapefruit Hyb US 1-83-179				2	
Grapefruit Hyb US 1-83-227				2	
Grapefruit Pink US 1-26-51				2	
Grapefruit UF 00-02				2	
Grapefruit UF 12-04				1	
Grapefruit UF N40-16-11-11				2	20
Hamlin 1-4-1	26	1,212	590,523	63	69,084
Hamlin 8-1-4	6	111	56,030	35	5,936
Hamlin 8-1-5	4	27	22,195	25	9,421
Hamlin UF N13-32			1,850	4	8,030
Hamlin US 1262				1	
Hamlin US 1266				1	
Hamlin US 1612				1	
Harvey Le F-41-39	2	3	240	3	1,575
Hesperethusa UF				1	
Hirado Pum US 1-65	5	16	4,486	5	3,840
Homosassa 56-10-28				1	
Hong Kong Kum US 10-2				4	1
Hudson Gft US				1	
Hyuganatsu US 12-43				1	
Iapar 73 UF 217				1	
Ice Tea Lemon UF C4-6-49				2	
Ichang Le US 2-33				1	1
Imperial Gft CGIP-151				1	
Isle O Pine Gft US				1	
Itaborai UF 31-5	1	1			
Itaborai UF 31-6	1	2		2	
Jackson Gft DPI-16				5	50
Jaffa F-53-38				1	
Jincheng UF 175				1	
K X R UF				1	
Kaffir Lime UF	4	9	4,855	2	250
Kao Phuang Pum UF 5-2				1	
Kara US 9E-9-21				1	
Karna US				1	
Kedem CGIP-147	1	1		5	
Keraji DPI-50-38-3				1	
Kev Lime Giant US	2	2		2	10
Kev Lime SPB-51-12	8	15	21,345	4	617
Kev Lime Thornless F-59-39	3	4	1,588	1	50
Khalily US 2-29				1	
Kimbrough Sat CGIP-108	1	6	2,069	2	24
King 18-1-1	2	4	105	3	5
Kinkoji DPI-50-44				2	54
Kinnow US 9E-9-27				2	
Kinokuni US 11-65				1	
Kishu SL CGIP-137	1	1		11	4,424
Kiyomi Tangor CGIP-136				1	
Kuharske 100-1-10				3	125
Lakeland Lt F-55-26	2	6	3,827	3	
Lane Navel CGIP-121	3	6		6	
Large Pink Pum US 6-57				1	
Le Pum 748-29				2	
Le Pum 748-32				1	
Lee US 2-56	2	3	386	3	395
Lemon Hyb UF C4-4-16				1	
Lemon Hyb UF C4-8-3				2	
Lemon Hyb UF C4-8-34				2	
Lemon Hyb UF LB-6-17				1	
Lemon UF 1-10-56				1	
Lemon UF 1-14-10				1	
Lemon UF 1-1-42				1	
Lemon UF 1-1-55				1	
Lemon UF 1-15-50				2	
Lemon UF 1-19-55				2	

. Budwood Availability	Scion Trees			Foundation Trees	
Variety Clone	# Part*	# Trees	B/W Cut	Trees	Amt Cut
Lemon UF 1-20-31				2	
Lemon UF 1-2-8				1	
Lemon UF 1-3-17				2	
Lemon UF 1-6-18				1	
Lemon UF 2-0-19				1	
Lemon UF 2-21-5				1	
Lemon UF 2-23-39				1	
Lemon UF 2-2-48				1	
Lemon UF 2-3-28				2	
Lemonquat US 2-31	2	2		1	
Lemorlime UF C4-5-27				2	
Leo X Te US 5-8-122				1	
Liang Ping Pum UF 8811	1	1	90	3	
Lime Hyb UF C4-10-11				1	
Lime Hyb UF C4-10-8				2	
Lime Hyb UF C4-6-52				1	
Lime Hyb UF C4-8-14				2	
Lime Hyb UF C4-9-33				2	
Lime SL Hyb UF C4-4-26				2	
Lime SL Hyb UF C4-6-35				2	
Limeberry DPI-50-43				1	
Limonia UF				1	
Lisbon Le UF 3-9	2	2	300	2	526
Long Ft Kum DPI-603-20-50	1	5	325	2	1
Loretto Lime 874-1				2	
Lue Gim Gong F-53-18				1	
M-7 Early Navel CGIP-194	1	9		2	
Madam Vinous UF 13				1	7
Malayan Kum UF 10				1	
Man X Org UF RBB 7-34			282	2	488
Man X Org UF RBB-6-25				2	
Mandalate CGIP-154				1	
Mandarange UF 4-71				2	
Mandarange UF SB-7-13				2	
Mandarange UF SB-8-17				2	
Mandarange UF SB-8-70				2	
Mandared CGIP-166				3	
Mandarin DPI-50-34				1	
Mandarin LS UF N40W-5-1				2	
Mandarin Mid UF 711			168	2	601
Mandarin SL UF C4-15-21				4	346
Mandarin UF 09-02				1	
Mandarin UF 09-05				1	
Mandarin UF 09-07				1	
Mandarin UF 09-08				1	
Mandarin UF 10-04				1	
Mandarin UF 11-01				1	
Mandarin UF 11-02				1	
Mandarin UF 11-08				1	
Mandarin UF 11-10				1	
Mandarin UF 12-02				2	
Mandarin UF 12-06				2	
Mandarin UF 12-08				2	
Mandarin UF 13-08				2	
Mandarin UF 18A-2-14				2	
Mandarin UF 18A-9-43				2	
Mandarin UF 3-13-51			3	2	
Mandarin UF 3-13-86				2	
Mandarin UF 3-14-45			3	1	
Mandarin UF 3-7-92				1	
Mandarin UF 411				4	783
Mandarin UF 6-13-30				2	
Mandarin UF 7-6-27	1	7	386	2	1
Mandarin UF 7-8-55				2	
Mandarin UF 900			4	4	361
Mandarin UF 9-10-28				2	
Mandarin UF 916				2	
Mandarin UF 950			3	4	21
Mandarin UF 9-8-20				2	
Mandarin UF B3-18-2				2	
Mandarin UF B7-2-59				2	
Mandarin UF BB4-8-20				2	
Mandarin UF C4-14-15				2	
Mandarin UF C4-14-3				2	
Mandarin UF C4-15-43				2	
Mandarin UF E20-42-13				2	
Mandarin UF E20-45-14				2	
Mandarin UF E20-45-19				2	
Mandarin UF KW5-12				1	
Mandarin UF N18A-8-17				2	
Mandarin UF N18A-9-39				2	

Budwood Availability	Scion Trees			Foundation Trees	
Variety Clone	# Part*	# Trees	B/W Cut	Trees	Amt Cut
Mandarin UF NB-17-25				2	
Mandarin UF RBS-13-8			4	2	
Mandarin UF RES-10-39				2	
Mandarin UF RES-19-22				2	
Mandarin UF SB-2-48				1	
Mandarin UFDawn 09-13				2	131
Mandarin UFGlow 10-02				2	130
Mandarin UFSunrise 09-04				2	131
Mandarin US 1-20-68				2	
Mandarin US 1-24-48				2	
Mandarin US 1-30-52				2	
Mandarin US 1-34-11				2	
Mandarin US 1-57-105				2	
Mandarin US 1-63-77				2	
Mandarin US 1-63-85				2	
Mandarin US 1-78-62				2	
Mandarin US 6-32-43				2	
Mandarin US 6-32-67				2	
Mandarin US 6-34-45				2	
Mandarin US C54-4				2	
Mandarin US1- 84-2				2	
Marisol Clem CGIP-124	2	3	390	3	5
Marsh Gft 74-1-1				5	
Marsh Gft F-57-4	9	24	3,201	5	1,315
Marsh Gft F-58-6	1	10	276		
Marumi Kum DPI-50-47	1	3		2	
Mayaca Navel 63-18-2				3	
McCarty Gft F-53-11				1	
Med Sweet F-58-38				1	
Meiwa Kum F-27-29	6	15	4,872	6	546
Melogold CGIP-112	1	1	105	4	
Merav CGIP-146	1	1		4	
Meyer Le US	8	24	13,909	3	2,529
Micro Inodor US 80-527A				1	
Micro Papu US				1	
Midknight CGIP-119	1	2		4	5
Midsweet LS UF SF11-2-31				2	30
Midsweet LS UF 12-2-33				2	30
Midsweet LS UF 2-23				1	30
Midsweet LS UF SF11-1-24				4	30
Midsweet US 6-9	16	127	21,448	27	14,542
Milam UF A				1	
Miller B/O UF				2	
Mini-Mandarin UF N18A-10-				2	
Minneola F-60-5	13	44	21,664	5	7,008
Monreal Clem CGIP-109				1	5
Moria CGIP-164	1	1		3	
Moro B/O 3-3-11	1	2	120	3	
Moro B/O DPI-50-19	1	4	1,512		
Moro X TAR B/O 3-2-66				1	
Morton US 1-3				1	
Mott Gft DPI-45				1	
Murcott 130-1-1S	14	44	42,750	7	19,826
Murcott LS UF LB-2-19				2	
Murcott UF 18A-10-47				2	
Murcott UF 18A-3-16				2	
Nagami Kum SPB-323-1-1	4	5	6,496	4	421
Nakon Pum US	1	1		3	20
Nansho Daidai DPI-50-45				1	1
Nasnaran DPI-50-49				1	
Natsumikan DPI-50-48				1	
Naugle Le DPI-206-1				1	
Navel Gft US 4-1	1	1		2	
Navel US 2-C				2	
Navel US 3-S				2	
Navel US1-N				2	
Navelo 81-16-15				1	
Nectar CGIP-148	1	2		4	
Nine Pound Le DPI-201-21				3	20
Nocatee F-25-26				1	
Nordmann Kum DPI-203-1				1	
Norton SPB-306				1	
Nour CGIP-149				4	
Nova US 7-41	3	6	90	3	775
Nules Clem CGIP-125	4	8	5,178	3	55
Orange Hyb US 1-46-15				2	
Orange Hyb US 1-49-96				2	
Orange Hyb US 1-5-35				2	
Orange Hyb US 1-65-55				2	
Orange Hyb US 1-75-113				2	
Orange Hyb US 1-75-55				1	

Budwood Availability	Scion Trees			Foundation Trees	
Variety Clone	# Part*	# Trees	B/W Cut	Trees	Amt Cut
Orange Hyb US 1-76-50				2	
Orange Hyb US 1-76-51				2	
Orange Hyb US 1-76-52				2	
Orange Jasmine F-				1	
Orangequat Hvb DPI-203-5				1	
Orlando F-57-5	7	17	3,090	3	1,663
Oroblanco CGIP-111	2	9	195	4	
Orri CGIP-134	1	16	1,771	9	15,600
Ortanique F-24-26	2	7		5	125
Ortanique LS US 6-15-89				2	
Osceola US 3-58	1	3	90	2	
Oval Pink Pum DPI-212				1	
Owari Sat 874	1	2	690	5	785
Owari Sat F-60-23	3	1	5,588		
Owari Sat F-60-25B	2	5	3,250	1	60
P Tri DPI-50-7				2	
P Tri Rubidoux F-16-20				1	
P Tri Wacissa F-18-1				1	
Page US 2-58	4	9	1,812	3	182
Pandan Wangi Pum US				1	
Parana Gft CGIP-167				1	
Parson Brown F-56-2	1	2		3	2,040
Parson Special US				1	
Pera 3-3-85				1	
Pera US 18-11				1	
Pera US 7-39				1	
Persian Lime SPB-7	6	24	13,790	4	1,885
Pineapple 1-27-11	1	2			
Pineapple 53-10-10	1	3	2,524	5	6,565
Pineapple F-60-3	2	7	756	3	
Pineapple SL US 10B-6-30	2	4		5	
Pineapple SPB-150-	1	2			
Pink Pum Hyb US 10-1-1				1	
Pink Sensation Pum 884	1	3		1	
Pixie Mandarin CGIP-181				3	24
Ponderosa Le DPI-203-8	4	7	401	3	50
Ponkan DPI-50-6	4	15	4,269	5	204
Pope F-53-28				1	100
Procimequat UF				1	
Pum X Gft UF 4-1				2	
Pummelette UF 5-1-99-2				6	130
Pummelette UF KWP-1-1				2	1
Pummelo 61-12-				1	
Pummelo DPI-203-2				1	20
Pummelo DPI-203-3				2	20
Pummelo DPI-203-4				2	20
Pummelo Hyb UF 914				5	146
Pummelo Hyb UF C2-5-03				2	
Pummelo Hyb UF C4-10-36				2	
Pummelo Hyb UF NB-17-4-				1	
Pummelo Hyb UF NB19-17-				1	
Pummelo Hyb UF NB19-18-				1	
Pummelo Hyb UF NB19-22-				1	
Pummelo Hyb UF NB-19-28-				1	
Pummelo Hyb UF NRB15-43				1	
Pummelo Hyb UF P2				1	
Pummelo Hyb US 10A-1-21				3	
Pummelo Hyb US 4-3-168				1	
Pummelo Hyb US 5-93-42				2	
Pummelo Hyb US 6-16-172				2	
Pummelo Hyb US 6-16-29				1	
Pummelo Hyb US 6-16-43				1	
Pummelo Hyb US 6-17-16				2	
Pummelo Hyb US 6-17-28				2	
Pummelo Hyb US 6-17-48				2	
Pummelo Hyb US LP-36-39				2	
Pummelo UF N7-4				2	1
Pummelo US 145 NE				3	
Pummelo US NW				3	
Queen 25-2-15	2	4		3	
Rangpur Li F-3-8				1	
Rasnake Tangelo 625	1	1	2,016		
Rav Rubv Gft CGIP-103	13	68	18,163	20	14,022
Red Grapefruit UF 16-11-17				2	20
Red Grapefruit UF N11-29			180	2	20
Red Java Pum UF 6-4A				1	
Red Lime 899	2	4	326	1	95
Red Pummelo UF 5-1-99-5			75	6	24
Red Pummelo UF C2-5-12				3	274
Red Pummelo UF C4-11-19				2	1
Red Pummelo UF UKP-1				2	

Budwood Availability	Scion Trees			Foundation Trees	
Variety Clone	# Part*	# Trees	B/W Cut	Trees	Amt Cut
Red Shaddock UF 5-4A	1	1	90	1	20
Ridge Pi SPB-602-36				1	26
Rio Red Gft CGIP-110	8	39	969	12	2,350
Robinson US 3-56	4	5		4	5
Roble 502-4-12	2	7		6	450
Rohde Red 472-11-43	7	50	4,472	10	6,856
Rohde Red DPI-50-3-1				1	
Rohde Red DPI-50-3-2				1	
Rohde Red DPI-50-3-8				1	
Rohde Red DPI-50-3-9				1	
Rohde Red UF B3-42			200	2	891
Rosa UF 156				1	
Rough Lemon Red UF 8-7				2	133
Round Lime DPI-205-2	1	1		1	
Royal Gft US 4-39	1	3		1	
RS UF 16-5-28 Orange16				1	
RS UF 16-5-5 Orange14				5	1
RS UF 18-2-19 White-1				2	
RS UF 18-2-8 Green-7				2	
RS UF 46x20-04-32				2	
Ruby Red Gft F-58-39	14	73	13,493	10	4,640
Rubv Sweet (35) UF 30-24	1	1			
Rubv Sweet (35) UF 32-10	1	2	105	2	
Rubv Valencia CGIP-195	1	3	65	2	
Salustiana 3-1-71				1	
Sampson UF 9-1A				1	
Sanboka US 7-55	2	6	90	1	25
Sanguinelli B/O US 10-5-17	2	7	1,850	4	65
Sanguinello Riccio UF 200				1	
Santa Cat Navel US 1				1	
Seedless Snack UF N40W-6-3				4	1
Seedless Surprise Gft US 1-77-				6	
Seleta Agrocitros UF 132				1	
Seleta Branca UF 166				1	
Seminole SPB-342-3-3				1	
Serra D Agua UF 210				1	
Sexton F-47-24				1	
Shambar Gft US 3-63				1	
Shasta Gold CGIP-159	1	1		4	
Shatian Pum CGIP-126				3	
Shekwasha US 9-1-27				1	25
Shiranui CGIP-132	1	10	1,512	4	54
Siamese Pink Pum UF 6-12A				3	20
Siamese Pum UF 6-9A				1	5
Siamese Swt Pum DPI-203-16	2	4	195	3	20
Silver Hill Sat US				3	
Sinton Citrquat US				1	1
Smooth Flat Sev US 2-2-14				1	
Sour Orange F-49-7	1	21		2	210
Star Ruby Gft DPI-60	3	5		4	
Succari US 7-21				1	
Sugar Belle LS UF 1-3				2	
Sugar Belle UF LB8-9	1	1	3	11	7,185
Summer Gold Gft UF N2-28			54	2	361
Summerfield Navel DPI-70-4-9	1	6	6,797	2	620
Sun Chu Sha US 9-12-12				1	6
Sun Hing Pum DPI-203-7				3	
Sunburst US 5	11	57	46,060	8	11,658
Sundiatgo US 5-17				1	
Sunki DPI-50-50				1	1
Sunquat DPI-50-27				1	
Sunshine US 10-13				1	
Sunstar US 6-6				5	
Sweet Lime F-10-10				1	55
Sweet Orange SL UF C4-16-12				4	33
Sweet Orange UF 12-05				2	
Sweet Orange UF 99-01				4	
Sweet Orange UF OLL10			285	2	80
Sweet Orange UF OLL4	4	56	910	9	719
Sweet Orange UF OLL6			265	2	105
Sweet Orange UF OLL7			270	2	135
Sweet Orange UF OLL8	2	29	550	6	9,471
Swingle US 22-55				3	389
Sydney Hyb US				2	
Tahoe Gold CGIP-140	1	1		3	
Tami CGIP-145	1	1		6	
Tango CGIP-168	5	14	11,884	11	11,789
Tankan US 2E-4-25				1	
Tarocco B/O UF 30-18	1	3			
Tarocco B/O UF 30-37				1	5
Tavares Lt US 9-4-48				3	

Budwood Availability	Scion Trees			Foundation Trees	
Variety Clone	# Part*	# Trees	B/W Cut	Trees	Amt Cut
TDE-1 CGIP-158				3	
Te X Or US 10-15-67				1	
Temple 33-6-15	4	9	504	3	4,781
Temple SL DPI-75	1	1	311	3	1,895
Thomasville Citrangequat US				1	
Thompson Gft 25-3-6	4	9	86	4	50
Thomson Navel US 6-6				1	
Thong Dee Pum UF 5-8A				1	
Tresca US 10C-2-4				5	
Triumph Gft DPI-32-4	1	1		1	
UFR-01 Orange3				1	103
UFR-02 Orange4			4	3	192
UFR-03 Orange15				2	264
UFR-04 Orange19				3	305
UFR-05 White4				2	227
UFR-06				1	99
UFR-07				3	3
UFR-09			6	3	8
UFR-10				3	4
UFR-15				2	141
UFR-16			5	3	166
UFR-17 Green2				4	246
Ugli DPI-74	1	1		1	25
US-1102				3	
US-1104				3	
US-1130				3	
US-1137				3	
US-119				1	100
US-1271				2	
US-1279				3	43
US-1281				3	43
US-1282				3	43
US-1283				3	43
US-1284				3	43
US-1287				3	
US-1293				3	
US-1297				3	8
US-1305				2	
US-1317				3	
US-1319				3	
US-1321				3	
US-1460				3	
US-1473				3	
US-1481				3	
US-1645				3	
US-1649				3	
US-1671				3	
US-1690				3	
US-2111				3	
US-801				2	20
US-802				5	323
US-812				1	1,019
US-852				3	20
US-896				1	20
US-897				5	104
US-942				5	140
USDA 1-105-106				4	
USDA 1-25-1				2	
USDA 1-37-12				2	40
USDA 1-42-65				2	
USDA 1-42-70				2	
USDA 1-43-21				2	
USDA 1-46-30				2	
USDA 1-49-105				3	
USDA 5-51-2				3	
USDA 6-13-44				2	
USDA 6-15-150				2	
USDA 6-2-53				2	
Valencia 10-12-7				1	
Valencia 51-3-3				1	130
Valencia Appleby UF 11-71				1	
Valencia F-55-1				1	750
Valencia F-55-23	1	4	8,346	1	5,530
Valencia F-55-28				1	5,850
Valencia F-55-4	14	230	163,204	44	43,621
Valencia Jenner UF 19-39				2	
Valencia Late UF N10-13				3	1,593
Valencia Late UF N7-2				5	30
Valencia Mid UF OLL20			540	5	130
Valencia Navel 522-15-14	1	13	4,320		
Valencia SL UF T2-21			4	4	30

. Budwood Availability	Scion Trees			Foundation Trees	
Variety Clone	# Part*	# Trees	B/W Cut	Trees	Amt Cut
Valencia SPB-1-12-7				3	
Valencia SPB-1-14-19	25	862	529,823	146	71,836
Valencia SPB-1-14-31	3	54	92,432	9	12,831
Valencia UF 1-62				5	30
Valencia UF B7-70				2	30
Valencia UF B9-65				5	2,735
Valencia UF C2A-1-23			140	2	30
Valencia UF N7-10			325	2	1,182
Valencia UF N9-12			175	2	280
Valencia UF SF14W-65				2	30
Valencia UF SF14W-65 NP	1	2			
Valencia UF T1-56				2	230
Valenfresh UF N7-3				4	1,283
Valquarius LT UF SF14W-62				7	485
Valquarius UF SF14W-62	2	4	724	8	8,835
Vangasay Le US 9-1-23				1	
Var Minneola F-2-4	1	5		1	25
Var Pink Lemon US	4	9	14,760	4	1,400
Var Rough Lemon US 10-6-11				1	
Var Sour Orange US 18-4				1	
Varn Navel SPB-194-10-2				2	
Verna Le DPI-203-13	1	2	1,725		
Vernia UF 35-15	8	71	29,526	9	13,629
Vernia UF 35-16	1	2			
Vernia UF C2A-1-10				4	3,730
Volkamer Le US 9-2-19				3	70
W Murcott CGIP-122	4	12	1,886	5	2,305
Wash Navel F-60-13	1	1			
Wash Navel F-60-18	3	12	690	2	1,235
Wash Navel F-60-19	2	4	495	5	1,615
Wekiwa US 11-7	1	1		3	1
Westin UF 47-13	1	1			
Westin UF 47-2	1	1		2	350
WG Mandarin	1	21			
White Orange DPI-203-18				2	
White Tangelo 956-1	1	1	90	1	25
Wild Turkey Navel 941-11-30-	2	2		1	70
Willits US 12-8-19				1	
Willowleaf Man SPB-89-1-1				1	
Willowleaf S/O F-12-9				1	1
Winola CGIP-165	1	2		1	
X-639 DPI-50-8				3	306
Xie Shan Sat CGIP-163	2	17		4	3,174
Yellow Gft 345-1-15	1	1			
Yellow Gft 345-1-15	1	1			
Yosemite Gold CGIP-141	1	1		3	1
Yuzu F-9-15	2	3		1	26

New Florida Parent Candidates - Parents Selected or Bred in Florida

Year	Candidates Entered	Parents Released	Cultivars being Shoot-tip Grafted	Entries by Agency	2016	2015	2014	2013	2012
2016	56	89	100	IFAS CREC	22	24	48	26	30
2015	80	99	102	IFAS Gainesville	11	9	9	0	4
2014	110	69	121	USDA	17	43	51	13	24
2013	42	103	81	Bureau / Participant	4	2	1	0	3
2012	72	61	138	Private / Proprietary	2	2	1	3	11
2011	72	51	119	Total	56	80	110	42	72
2010	34	48	107	32 percent of the candidates entered in 2016 were rootstocks					
2009	24	27	99						
Total	506	561							

97% of the new selections entered into the budwood since 2010 are restricted, licensed or patented.

Pathogen Testing (Florida's Budwood Program)

Scion/Foundation/Parent Source Tree testing							
		Tests run Winter Haven					
Pathogen	Test Type	2016	2015	2014	2013	2012	2011
HLB	qPCR	5,922	6,685	8,410	7,307	6,481	7,348
Tristeza	qPCR	6,541	7,365	7,657	7,727	7,554	7,744
Psorosis	Biological	57	95	104	122	58	126
Psorosis	qPCR	2,225	6,188	2,281	1,523	1,589	1,713
Tatter Leaf*	qPCR	2,165	3,429	6,599	1,501	1,970	4,546
Leaf Blotch*	qPCR	3,049	3,430	6,690	1,523	1,970	4,546
Viroid (Biological)	CEVd, CVd I, III, IV, V	72	103	159	87	83	89
Viroid (qPCR)	CVd I – V, CEVd	19,124	16,790	12,977	14,755	8,255	9,953
Total		39,155	44,877	44,085	44,877	34,545	27,960
Testing Frequency	HLB & CTV – PCR Annual; * Seed Source every 3 years Psorosis/Viroids/Leaf Blotch – every six years (PCR).						

Citrus Germplasm Introduction Program (CGIP) Introductions from Outside Florida

Varieties undergoing pathogen indexing at Gainesville/LaCrosse		
Avana 4N CGIP-189 (Sicily)	Ruby Red Gft Trans CGIP-205	Rhode Red Trans CGIP-212
Odem CGIP-219	Hamlin Transgene CGIP-206	Marrs Transgene CGIP-215—218
Hadas CGIP-221	Hamlin Transgene CGIP-207	Rio Red Transgene CGIP-171
Seedless Eureka Le CGIP-223	Hamlin Transgene CGIP-208	Ruby Valencia CGIP-195
Citrindarin CGIP-222	Hamlin Transgene CGIP-209	Clementine CGIP-180
Meravit CGIP-220	Hamlin Transgene CGIP-210	
Ruby Red Gft Trans CGIP-204	Hamlin Transgene CGIP-211	
Varieties on list to introduce (Approved by the Citrus Budwood Technical Advisory Committee for introduction)		
C. Latipes CGIP-184	Wendy Mandarin CGIP-229	Sigal Mandarin CGIP-228
Orit Mandarin CGIP-227	Lily Mandarin CGIP-225	Einav Mandarin CGIP-224
Byron Sunrise Finger Lime CGIP-198	Lenari Mandarin	Rainforest Pearl Finger Lime CGIP-199
Australian Finger Lime		

Varieties Released 2015-16

Daisy LS CGIP-191	Sukega Gft CGIP-182	Nova LS CGIP-200
Chislett Late Navel CGIP-190	Atwood Navel CGIP-201	Kinnow LS CGIP-193
Wheeny Gft CGIP-183	Cambria Navel CGIP-179	Ryan Navel CGIP-186
Setoga CGIP-187	Taylor Lee CGIP-185	

Florida Parent Tree Introductions

2016 New Florida Parent Candidates Entries (56)

These selections began the shoot-tip grafting clean-up process this year and must be fully tested before being released.

A+FD UF 19-11-10	Mandarin Mid UF 711	Mandarin UF 18A-9-27	Tangor UF 15-01
A+Volk UF 19-11-31	Mandarin SL US 1-35-81	Mandarin UF 3-3-52	US-1705
Bangladesh Le DPI-633-1	Mandarin SL US 6-1-41	Mandarin UF C7-10-50	US-1745
Carney Orange DPI-229-2	Mandarin UF 13-13	Mandarin US 1-26-52	US-1750
Carney Orange DPI-229-3	Mandarin UF 13-17	Orange Hyb US 1-4-12	US-1756
Dickinson Gold Valencia 595-	Mandarin UF 15-03	Orange Hyb US 1-85-119	US-1777
Eureka Le UF C4-9-30	Mandarin UF 15-04	Red Gft UF N40-16-11-15	US-1865
FG-1731 UF	Mandarin UF 15-05a	Red Gft UF N40-16-11-3	US-1867
Grapefruit Hyb US 4-4-1	Mandarin UF 15-05b	RS UF 2247x1571-00-3 White-3	US-2491
Grapefruit UF 11-06	Mandarin UF 15-06	RS UF 2247x2075-01-2	US-2492
Kiella Calusa S/O DPI-666-4	Mandarin UF 15-07	RS UF 46x43-05-SDLG-51	US-2493
Lilly Le 966-1	Mandarin UF 15-08	RS UF Blue 1	US-2494
Man X Org UF 6-2-55	Mandarin UF 15-09	RS UF Cleo+Carrizo	Valencia UF N40-16-7-11
Mandarin 4x Cybrid 304 UF	Mandarin UF 15-17	Sweet Orange UF 7-9-35	Vernia UF C2-2-1

2016 Parent Candidate Selections Released (89)

Completed Shoot-tip Grafting and/or Pathogen Testing

C latipes DPI-203-19	Mandarin US 6-35-90	Sweet Orange UF OLL23	US-1837
Grapefruit UF 14-09	Midsweet 199-01-02	Tangor UF 13-07	US-1845
Grapefruit UF 9-5-16	Midsweet 199-08-01	UFR-08	US-1851
Kunembo US 3-10-3	Murcott LS UF N40-18A-10-09	UFR-14	US-1859
Mandarin LS US 4-13-31	Murcott+Dancy UF	US-1103	US-2102
Mandarin LS US 4-13-39	Orange Hyb US 1-10-1	US-1105	US-2104
Mandarin UF 12-01	Orange Hyb US 1-5-213	US-1111	US-2106
Mandarin UF 13-12	Orange Hyb US 6-9-96	US-1280	US-2107
Mandarin UF 13-14	Pummelo US 10a-7-15	US-1318	US-2109
Mandarin UF 14-04	RS UF 46x20-04-48	US-1516	US-2132
Mandarin UF 14-08	RS UF 46x20-04-S13	US-1627	US-2141
Mandarin UF 1420	RS UF A+HBPxOrange 19-08-2	US-1659	US-2175
Mandarin UF 1424	RS UF B21-1-2-11-2	US-1664	US-2255
Mandarin UF 1425	RS UF B21-1-25-11-6	US-1672	US-2259
Mandarin UF 18A-8-25	RS UF Gft + 50-7	US-1691	US-2264
Mandarin UF 18A-8-42	RS UF Milam+HBPxOrange 14-09-14	US-1692	US-2290
Mandarin UF 304	RS UF Murcott+Rubidoux	US-1696	US-2303
Mandarin UF C7-12-19	RS UF Purple 4	US-1721	US-2345
Mandarin UF LB3-11	RS UF SG-50-6	US-1730	Valencia UF BHG2-68
Mandarin UF RES-19-56	RS UF SO + 50-7	US-1742	Verna Le DPI-203-20
Mandarin US 1-23-130	RS UF SO + FDT	US-1744	
Mandarin US 1-8-70	Sweet Orange UF C1-41-B	US-1753	
Mandarin US 1-8-96	Sweet Orange UF N10-25	US-1757	

These varieties have all been cleaned up and have been released from pathogen testing. They are approved for propagation and planting in Florida, however most of the selections are restricted, patented and/or have license agreements and are not available to propagate without permission of the owner. These selections usually go into a research field testing trial before broader industry release.

Top 30 Varieties				Top 30 Rootstocks			
			5 Year Cumulative				5 Year Cumulative
1	Valencia	1,826,26	8,000,326	1	Kuharske	767,591	3,613,168
2	Hamlin	907,131	6,862,954	2	X-639	621,955	1,721,411
3	Vernia	340,141	365,235	3	Swingle	549,498	5,601,526
4	Glen Navel	77,443	563,985	4	Sour Orange	435,620	2,489,481
5	Murcott	23,808	221,533	5	Cleopatra	354,502	891,484
6	WG Mandarin	76,284	127,132	6	US-802	319,454	989,169
7	Orri Mandarin	74,723	210,554	7	US-897	295,503	825,974
8	Sunburst	61,985	192,627	8	US-942	259,471	380,269
9	Midsweet	48,202	761,417	9	US-812	158,992	956,399
10	Sweet Orange	48,023	56,991	10	C-35	143,311	280,332
11	Tango	46,211	146,230	11	Carrizo	106,089	1,434,876
12	Ray Ruby Grapefruit	35,002	610,306	12	Volkamer	77,845	670,385
13	US Early Pride	34,802	124,128	13	Own	60,466	62,719
14	Cara Cara Navel	30,306	172,594	14	UFR-04	58,569	62,097
15	Minneola Tangelo	29,388	193,393	15	Kinkoji	44,376	370,374
16	Key Lime	24,528	74,543	16	Rough Lemon	27,469	101,472
17	Persian Lime	24,479	87,120	17	Unknown	17,562	30,936
18	Ruby Red Grapefruit	22,560	375,028	18	UFR-03	16,364	18,723
19	Fallglo	20,262	60,335	19	Benton	13,415	19,135
20	Valquarius	19,405	33,457	20	Pon trifoliata	13,257	32,033
21	Variegated Pink	19,381	19,381	21	Sun Chu Sha	12,716	82,177
22	Valencia Rohde Red	18,602	135,498	22	Research Stock	12,671	70,702
23	Meyer Lemon	17,315	115,292	23	C-54	10,309	10,688
24	Sugar Belle	15,947	30,761	24	C-22	8,787	10,436
25	Salad Tree	13,420	13,420	25	UFR-17	8,247	10,238
26	Eureka Lemon	12,614	24,161	26	UFR-02	7,935	7,935
27	Pineapple	10,535	35,393	27	C-57	6,727	7,007
28	Summerfield Navel	8,943	77,431	28	Dickinson	6,433	9,840
29	Owari Satsuma	8,905	66,609	29	Flying Dragon	6,245	90,469
30	Flame Grapefruit	8,819	106,815	30	UFR-16	5,493	6,293

Top Clones Propagated in 2016		
	Variety Clone	Descriptions
1	Valencia SPB-1-14-19	A Hughes nucellar line, entered budwood program in 1955. These SPB-1 trees are the first selections from open pollinated Valencia seedlings in a grove planted by Dr. and Mrs. Ausker Hughes near Plymouth in Orange County in 1941. The nucellar characteristics made them more cold hardy than the old line selections. Fruit production is better than the old-line selections. They have become the most popular Valencia selections in Florida. Similar to SPB-1-14-31, and SPB-1-12-7.
2	Hamlin 1-4-1	Is an old-line selection entered into the budwood program by Ward's Nursery in Avon Park. This was the first Hamlin selection entered into the budwood parent tree program in 1953 and still remains the most widely propagated early orange. It has typical Hamlin traits and excellent yields. Hamlin originated in Florida as a chance seedling near Glenwood in 1879. Named after citrus culturist Arthur George Hamlin who was DeLand's first attorney and a legal advisor to Henry Flagler.
3	Valencia F-55-4	The "55 series" are DPI nucellar lines. These selections are young nucellar lines from seedlings of fruit collected from the Hughes grove in Orange County. Fruit characteristics are typical of Valencia oranges. Trees are a little more vigorous than old line and Hughes nucellar selections. Fruit production has been slightly better than the Hughes selections and significantly better than the old lines. Similar to F-55-4, F-55-1, S-F-55-28, and F-55-23. Originally assigned SPB-5A, planted in I/4 Foundation Grove in 1961.
4	Valencia SPB-1-14-31	Similar to SPB-1-14-19 above.
5	Hamlin 8-1-4	Parent tree entered into the program from the Story Property in Winter Garden in 1953. A top yielding clone in the Budwood Foundation Grove. This clone has typical Hamlin traits and excellent yields.

Top Clones Propagated in 2016

	Variety Clone	Descriptions
6	Vernia UF 35-15	This is Dr. Bill Castle's nucellar selection planted at Orie Lee's, St. Cloud. Entered in to the budwood program 5/15/1996. The seed for the DPI-441 clone originated from the Coca Cola, Hodgson Grove, Indian Town, same as the Vernia-3 clone. Vernia is a Spanish variety; fruit medium-small, egg shaped, well colored, very prolific, fruit holds well, inclined to produce off bloom fruit, smaller than Valencia. The season is several weeks earlier than Valencia.
7	Glen Navel F-56-11	This is a nucellar selection originating from Glen St. Mary's Nursery. Found as a group of trees in a Washington navel grove of W. G. Roe of Winter Haven. It was named and introduced by the Glen St. Mary Nurseries of Glen St. Mary, Florida. The 56 clonal selections are seedlings of the Glen navel. The DPI released clones originated as seed from flowers pollinated in March 1955. The seed were planted at the University of Florida horticultural greenhouses in December 1955. The seedlings were received in Winter Haven from the Gainesville laboratory 9/4/1957 and assigned the SPB number 43. These seedlings were moved to the original DPI foundation planting north of Haines City. The original 56-11 & 56-12 trees were planted 3/7/1960 in row 56 of the foundation grove in tree spaces 11 & 12 respectively. Glen fruit is typically large with an open non-protruding navel; yields are good with average brix/acid ratios.
8	Hamlin 8-1-5	Similar to 8-1-4 above.
9	Murcott 130-1-1S	Entered 2/6/1959 by Leo Wilson from seedling tree near Bradenton in Manatee County. Seeds planted about 1940 from a source in the Clearwater area. Two seedling trees were selected and given the distinction N (North) and S (South). Many propagations were made from both selections, however, the south tree is the current program clone. Traits are characteristic of the Murcott variety, good yields and vigorous. Description: Thin rind, alternate bearing, cold sensitive, seedy 10-20, bud union problems with common citranges and citrumelos. Season: Mid-late, January. The origin of Murcott is unknown and its history obscure. The Citrus Industry Vol. 1 (1967) provides some historical information.
10	Orri CGIP-134	Orri mandarin was derived from irradiated budwood of Orah mandarin (a Temple x Dancy hybrid) by citrus breeders in Israel. Fruit is seedless to few seeds, easy to peel, and has an excellent flavor. Entered Florida through CGIP in 2001; shoot-tip grafted and pathogen indexing completed in 2004. Budwood released and available to Florida growers with license agreements in 2006. Patented.
11	WG Mandarin 911-C-37	Private (proprietary) selection.
12	Sunburst US 5	A USDA hybrid-Robinson tangerine x Osceola released in 1979. Early maturing with medium sized fruit requiring pollination for best yields. Foliage highly susceptible to rust mite infestations.
13	Midsweet US 6-9	A seedling selection of a Homosassa orange selection and was released by the USDA in 1987. The budwood program's parent trees originated in a research block of Dr. Jack Hearn on the property of Orie Lee in St. Cloud. Three trees (6-9, 6-10, 7-10) entered the program for parent tree testing 4/3/1987. All three were from a single USDA Whitmore Foundation Farm source. Midsweet has been the most popular midseason variety for many years, has good yields and is often used as a replacement for the midseason Pineapple orange.
14	Tango CGIP-168	Developed by the University of California Riverside citrus breeding program (patented). This is a seedless version of the W Murcott achieved by irradiating budwood. Budwood from CCPP was tested by CGIP in 2007. The selection was planted at Chiefland in 2009. Propagation is restricted, must have license agreement with the New Varieties Development & Management Corp.
15	Sweet Orange UF OLL8	Restricted University of Florida selection – proprietary – Description will be provided by IFAS upon release.
16	Early Pride US 1-62-122	A USDA selection, released for evaluation in 2009. Originates from Fallglo budwood that Dr. Jack Hearn had irradiated in 1991. Identical to Fallglo except seedless (0-4 seeds) and slightly smaller sized fruit. Mid-October maturity thru mid-November. Origin: USDA FF-10B-8-29. Must have contract with NVDMC to propagate. First patented USDA citrus scion variety. Needs pollinator.
17	Valencia F-55-23	The "55 series" are DPI nucellar lines. See F-55-4 & F-55-23 above.
18	Ray Ruby Gft CGIP-103	Originated from a Ruby Red grapefruit mutation in Texas. Discovered in a Weslaco, Texas Ruby Red grove 1970 by Robert Ray, identical or similar to Henderson? Flesh color and exterior blush is more red than Ruby Red but not as intense as Star Ruby. Good internal red fruit color slightly less than Flame. Good fruit size and shape. Excellent quality, comparable to Ruby Red. Good yields. Released in 1986.
19	Early Pride US 1-62-122	A USDA selection, released for evaluation in 2009. Originates from Fallglo budwood that Dr. Jack Hearn had irradiated in 1991. Similar to Fallglo except seedless (0-4 seeds) and slightly smaller sized fruit. Mid-October maturity thru mid-November. Origin: USDA FF-10B-8-29. Must have contract with NVDMC to propagate. First patented USDA citrus scion variety. Needs pollinator.
20	Cara Cara Navel CGIP-104	This red fleshed navel was believed to originate from a limb sport on a Washington navel orange tree on the property of Mr. Domingas. It was brought to the attention of E. P. Du Charme during a visit to the Hacienda Cara Cara in Venezuela. Dr. Al Krezdon, University of Florida, requested introduction of the Cara Cara in August 1975. Dr. Al Krezdon brought 5 sticks of budwood back from Venezuela in early July 1977. The budwood tested positive for exocortis viroid by CGIP and was shoot-tip grafted before being released to the budwood office 8/9/1983 for evaluation. Cara Cara was released to the citrus growers June 1, 1987. The Cara Cara name is interpreted as beloved in Italian. Trees tend toward variegation and variegated flushes are common.
21	Minneola F-60-5	This nucellar honeybell selection originated from open pollinated seedlings at the Glen St. Mary Nursery in Dundee (Polk County), 3/25/1957. Seedlings planted at WHTP and planted at the Haines city foundation in rows 56 and 58 in 1963. Typical traits generally associated with Minneola tangelos. Origin: Florida, Duncan x Dancy, USDA release 1931. Description: Pronounced neck at stem end, deep orange-red color, needs pollinator (Temple, Sunburst, Fallglo), 7-12 seeds, susceptible to alternaria, brown spot and scab. Mid-late.
22	Key Lime SPB-51-12	Most likely collected from Avon Park Bombing Range around 1957. This is the main Key Lime clone utilized in nursery industry. Origin: W. Indies. Description: Very small fruit, thin rind, smooth, moderately seedy 3-5, greenish yellow. Season: Everbearing, mainly winter.
23	Persian Lime SPB-7	The original tree was entered into the budwood program in 1954 by Coral Reef Nursery as Li-38-1-1-X. This tree was owned by E. J. Norman of Homestead said to be one of the oldest in Dade county, and propagated by a man named English from one of the first five lime trees known to exist in the area. The current clone is a shoot-tip graft of the original clone. The first commercial Persian Lime planting in central Florida was in 1897 about 2 miles southeast of Lake Placid, planted by a grower whose Marion county trees were killed by the big freeze of 1895. The Persian lime SPB-7 clone was selected to be free of the lime blotch disorder in Florida and has performed well under Florida conditions. The variety is also known as a Tahiti lime. Origin: Unknown, introduced to California from Tahiti. Description: Normally seedless with a high degree of monoembryony, most likely a hybrid, fruit medium small, smooth, thin rind, juicy. Season: Everbearing, mainly winter, June-September.
24	Ruby Red Gft F-58-39	Originated from Dr. Mort Cohen's closed pollination selections made from the grove near the Century Tower on the campus of UF. This was the first Ruby Red grapefruit free of exocortis. Excellent fruit yields with typical fruit shape and color of the Ruby variety. Origin: Limb sport of Thompson, McAllen, Texas 1929. Description: Deeper flesh coloration than Thompson, blush in peel, flesh fades to pink later in the season. Season: November-May.

Top Clones Propagated in 2016

	Variety Clone	Descriptions
25	Fallglo US 10-61-3	A USDA hybrid released in 1987 (Dr. Jack Hearn). It has large fruit maturing early. Susceptible to limb dieback similar to Robinson tangerine but not cold hardy. Origin: USDA Orlando, hybrid Bower x Temple. Description: Fruit large, 20-40 seeds, pick without clipping, narrow leaf light green, does not need pollinator, dieback. Season October-November.
26	Var Pink Lemon US	Selection from USDA, received one plant from Dr. Hutchison, 6/2/1983. Ornamental, dooryard, specimen tree, variegated leaves and fruit. Changed from DPI-835-7 to 25, because it was lost then recollected from Adams Citrus Nursery participant #25. Changed back to DPI-835 in 2014 to proper reflect USDA origin.
27	Valquarius UF SF14W-62	Entered by Dr. Jude Grosser, CREC 9/2004. Maturity is four to eight weeks ahead of the standard Valencia variety. Good juice color gives it potential to become a favored midseason processed orange variety. (Mid January-February) License has been granted to the New Varieties Development and Management Corporation.
28	Meyer Le US	Received budwood from the USDA 1/26/1996 for this selection. It is a typical Meyer lemon type popular with homeowners. The fruit is round, yellow and more cold hardy than typical lemons. Originally brought into the USA by Frank Meyer in 1908 who was a USDA plant explorer. Origin: China, also known as Peking lemon. Description: Everflowering mainly in spring, large size, smooth skin, lower acidity, more cold tolerant than lemons, dooryard, fruit tender and juicy, moderately seedy (10), low spreading growth habit. Season: Fruit throughout the year, mainly winter, November-March.
29	Sugar Belle UF LB8-9	Released in 2009 by Dr. Fred Gmitter, IFAS. It is a seedy variety resembling Mineola tangelo although smaller in size and having a late November maturity. Fruit color, flavor, tolerance to alternaria and earlier maturity are its main attributes. Florida Foundation Seed Producers, Inc. granted the New Varieties Development & Management Corp. the exclusive USA licensee for this variety. Must have license agreement with the New Varieties Development & Management Corp to propagate.
30	Rohde Red 472-11-43	Is a deeper colored Valencia selection. This cultivar appeared as a limb sport in a Highlands County grove in 1955 near Sebring, was found by and propagated by Mr. Paul Rohde, Sr. and others in several Polk County locations. The 472 clone was entered by Lake Pierce Nursery, Virgil Brown 3/13/1969. The original trees were pathogen infected and had to be shoot-tip grafted. Clean stock budwood became available through the Citrus Budwood Registration Program in early 1983. Fruit is typical of many old line Valencia oranges in size and production, but develops a deeper juice color. Color scores have ranged from 39-40. Some selections have shown some tendency to be unstable and occasionally bear fruit of standard Valencia-type on certain limbs. Nurserymen are cautioned to select budwood from trees demonstrating good production and good color characteristics in the fruit. The 472-11-43 clone was selected as the most stable and highest yielding of the Rohde's, comparable to the highest yielding nucellar Valencias. See FSHS Proceedings 1975.
31	Valencia F-55-28	The "55 series" are DPI nucellar lines. See F-55-4 & F-55-23 above.
32	Valencia SPB-1-12-7	One of the Hughes nucellar line selections that were entered budwood program in 1955. Similar to SPB-1-14-19, and SPB-1-14-31 above.
33	Hamlin UF N13-32	Restricted University of Florida selection – proprietary – Description will be provided by IFAS upon release.
34	Eureka Le DPI-	Source of this Eureka is unknown, although in all probability one of the Eureka clones entered into the budwood program. This tree was for years located in Winter Haven greenhouse 4 in a large container. Origin: California, seedlings from Italian fruit, Cook is a nucellar clonal selection. Description: virtually thornless, precocious, productive compared to other varieties, more sensitive to cold, less vigorous, shorter lived, incompatible with PT and hybrids, peel oil 13.13 lbs/ton see DPI-29. Season: Everbearing, mainly August-December.
35	Pineapple 53-10-10	Cultivar came from the Wartman properties in Citra in Marion County. Entered into budwood program in 1956. Its chief claim to fame is that it has been referred to as the red Pineapple. The peel is more orange, yields are less than nucellar selections and fruiting tends towards alternate bearing. The pineapple variety originated near Orange Lake from a seedling tree in a grove or homesite owned by Dr. James Owens near Sparr. First known as the Owens orange. Putnam Bishop first propagated the variety in 1876 for the grove he was developing near Citra. For years Pineapple was the main midseason orange grown in Florida. See 1937 FSHS page 129 for history of Pineapple orange.
36	Summerfield Navel DPI-70-4-9	Summerfield originated in an old planting called Wild Grove near Wiersdale in Marion County. The original tree was discovered in 1928 by W. J. Lyles, the owner of Summerfield Nursery Co. Summerfield has been in production since 1931 as one of the earliest maturing navels in Florida. The parent trees entered into the Citrus Budwood Registration Program were located on land that was leased from R.W. Oxner for a nursery by Summerfield nursery. The trees were lined out in 1938 and left as a grove planting. They were first entered into the budwood program 1/30/1959 and additional selections were made 11/22/1976. The parent trees were infected with psorosis virus and exocortis viroid which were removed by the bureau by shoot-tip grafting. Also see #129 parent file.
37	Flame Gft US 1-26-71	Originated from seedlings planted in Florida from the Henderson variety which came from Texas. Seed collected by Dr. Wutscher in Texas and planted by Dr. Hearn in 1973. Entered into program by Jack Hearn 7/17/1981 and released by the USDA in 1987. Early evaluation block planted at DPI WHTP. The fruit color is nearly as good as Star Ruby and has a decent blush. Holds flesh color well into season.

SWEET ORANGES		2016	% of Type	% Sweet Oranges	
Early	Hamlin 1-4-1	610,908	63	17	Early- Season 976,319 27.86% of Oranges
	Hamlin 8-1-4	134,673	14	3	
	Hamlin 8-1-5	99,470	10	2	
	Earlygold UF 33-4	3,986	<1	<1	
	Hamlin UF N13-32	3,372			
	Hamlin CGIP-206 thru 211	1,442			
	Ambersweet	262			
	Other Early	122,206	12.5	3	
	Totals Early Season	976,319		27.86	
Navel	Glen Navel F-56-11	69,084	66	2	Navel 105,259 3% of Oranges
	Cara Cara Navel CGIP-104	15,849	15	<1	
	Summerfield Navel DPI-70-4-9	12,675	12		
	Wash Navel F-60-19	2,664	3		
	Crisafulli Navel DPI-221-1	2,166	2		
	M-7 Early Navel CGIP-194	1,312	1		
	Wash Navel F-60-18	702	<1		
	Mayaca Navel 63-18-2	622			
	Dream Navel DPI-58	120			
	Wild Turkey Navel 941-11-30-1	40			
	Totals Navel	105,234		3	
Midseason	Vernia UF 35-15	314,029	78	9	Midseason 401,896 11.46% of Oranges
	Valquarius UF SF14W-62	42,424	10	1	
	Midsweet US 6-9	13,850	3	<1	
	Valquarius LT UF SF14W-62	12,803	3		
	Pineapple 53-10-10	8,980	2		
	Vernia UF C2A-1-10	4,851	1		
	Sweet Orange UF OLL7	1,153	<1		
	Valencia UF N7-10	325			
	Sweet Orange UF OLL6	300			
	Other Midseason	3,181			
	Totals Midseason	401,896		11.46	
Blood	Sanguinelli B/O Us 10-5-17	2,135	44	<1	Blood Orange 4,805 <1% of Oranges
	Moro B/O DPI-50-19	1,512	31		
	Moro B/O 3-3-11	572	12		
	Tarocco B/O UF 30-37	265	6		
	Budd B/O DPI-82	137	3		
	Garrett B/O DPI-666-3	74	1		
	Garrett B/O DPI-666-1	64			
	Garrett B/O DPI-666-2	46	<1		
	Totals Blood Orange	4,805			
Late	Valencia SPB-1-14-19	1,024,852	51	29	Late-Season 2,015,644 57.52% of Oranges
	Valencia F-55-4	406,922	20	11	
	Sweet Orange UF OLL8	229,389	11	7	
	Valencia SPB-1-14-31	186,197	9	5	
	Sweet Orange UF OLL4	63,647	3	2	
	Valencia F-55-23	61,865	3	2	
	Valencia F-55-28	9,131	<1	<1	
	Rohde Red 472-11-43	7,641			
	Valencia SPB-1-12-7	7,471			
	Valencia F-55-24	6,840			
	Valencia Navel 522-15-14	4,320			
	Valencia UF B9-65	2,966			
	Sweet Orange UF OLL10	2,423			
	Valencia Late UF N10-13	420			
	Valencia UF N7-10	325			
	Rohde Red UF B3-42	200			
	Valencia UF N9-12	175			
	Pineapple SL US 10B-6-30	135			
	Other Late Season	725			
	Totals Late Season	2,015,644		57.52	
	Total Sweet Oranges	3,503,923			

Citrus Nursery Propagations 2016 (by usage)

Mandarin		#	% Mandarin	% Total Nursery
1	Early Pride US 1-62-122	124,075	24	3
2	Sugar Belle UF LB8-9	76,500	15	2
3	WG Man 911-17	75,088	15	2
4	Bingo UF 7-6-27	39,754	8	1
5	Tango CGIP-168	35,851	7	
6	Sunburst US 5	23,251	5	
7	Murcott 130-1-1S	22,813	5	
8	Minneola F-60-5	19,016	4	<1
9	Fallglo US 10-61-3	13,492	3	
10	Owari Sat F-60-23	11,205	2	
11	W Murcott CGIP-122	10,901	2	
12	Mandarin UFGlow 10-02	8,108	2	
13	Calamondin DPI-555	7,212	1	
14	Dancy F-59-8	5,909		
15	Temple 33-6-15	5,308		
16	Ponkan DPI-50-6	4,652		
17	Orlando F-57-5	4,525		
18	Owari Sat 874	3,423		
19	WG Man 911-03	3,024		
20	Xie Shan Sat CGIP-163	2,415	<1	
21	Nules Clem CGIP-125	1,999		
22	Brown Select Sat 61-0-1	1,550		
23	Lee US 2-56	708		
24	Mandarin UFSunrise 09-04	703		
25	Mandarin UFDawn 09-13	663		
26	Temple LS DPI-75	622		
27	Shiranui CGIP-132	470		
28	Silver Hill Sat US	275		
29	Mandarin Mid UF 711 Mixup	235		
30	Mandarin UF RES-10-39	186		
31	Mandarin UF BB4-8-20	176		
32	Man X Org UF RBB-7-34	171		

Grapefruit		#	% Grapefruit	% Total Nursery
	Ray Ruby Gft CGIP-103	18,316	32	<1
	Ruby Red Gft F-58-39	17,376	29	
	Flame Gft US 1-26-71	13,955	24	
	Rio Red Gft CGIP-110	3,657	6	
	Marsh Gft F-57-4	1,446	3	
	Duncan Gft F-57-19	1,102	2	
	Ruby Red Gft CGIP-204	400	<1	
	Summer Gold Gft UF N2-28	291		
	Ruby Red Gft CGIP-205	172		
	Duncan Gft F-56-33	120		
	Jackson Gft DPI-16	45		
	Grapefruit UF N40-16-11-11	38		
	Grapefruit Hyb UF P1	14		
	Pum X Gft UF 4-1	14		
	Marsh Gft 74-1-1	11		
	Bloomsweet Gft DPI-50-38-1	6		
	Hudson Gft US	4		
Total Grapefruit		56,967		
Kumquat		#	% Kumquat	% Total Nursery
1	Meiwa Kum F-27-29	11,279	42	<1
2	Nagami Kum SPB-323-1-1	8,417	31	
3	Long Fruit Kum DPI-603-20-50	5,059	19	
4	Centennial Kum US	2,044	8	
5	Nordmann Kum DPI-203-1	4	<1	
Total Kumquat		26,803		
Lemon & Lime		#	% Le/Li	% Total Nursery
1	Meyer Le US	48,014	23	1
2	Harvey Le F-41-39	32,060	15	
3	Eureka Le UF 3-27	31,247	15	
4	Eureka Le DPI -	28,332	13	

33	Mandarin UF N18A-9-39	162		
34	Mandarin UF RES-19-22	160		
35	Mandarin LS UF N40W-5-1	146		
36	Mandarin UF KW5-12	140		
37	Kishu SL CGIP-137	124		
38	Page US 2-58	122		
39	Fina Sodea Clem CGIP-123	107		
40	Pixie Man CGIP-181	105		
41	Ortanique F-24-26	100		
42	Owari Sat F-60-25B	96		
43	Kimbrough Sat CGIP-108	87		
44	Keraji DPI-50-38-3	47		
45	Mandarin UF RES-19-56	36		
46	Changsha US 9-12-9	35		
47	Furr LS UF 18A-10-11	30		
48	Furr LS UF B-A-32.5	30		
49	Man X Org UF RBB-6-25	30		
50	Mandarange UF 4-71	30		
51	Mandarange UF SB-8-17	30		
52	Mandarin SL UF C4-15-21 (19)	30		
53	Mandarin UF 411	30		
54	Mandarin UF 7-8-55	30		
55	Mandarin UF 900	30		
56	Mandarin UF 950	30		
57	Mandarin UF B3-18-2	30		
58	Mandarin UF B7-2-59	30		
59	Mandarin UF C4-14-15	30		
60	Mandarin UF C4-14-3	30		
	Other Mandarins	692		
Total Mandarin		506,859		

5	Bearss Le SPB-341-95-33	13,363	6	<1
6	Lisbon Le UF 3-9	8,079	4	
7	Variegated Pink Le US	4,913	2	
8	Ponderosa Le DPI-203-8	2,650	1	
9	Assam Le DPI-203-15	690	<1	
10	Verna Le DPI-203-9	675		
11	Baboon Le Us 2-25	675		
12	Lemon UF 1-14-10	311		
13	Other Lemon	42		
14	Persian Lime SPB-7	23,957	11	
15	Key Lime SPB-51-12	9,133	4	
16	Red Lime 899	5,832	3	
17	Key Lime Thornless F-59-39	580	<1	
18	Other Limes	246		
Total Lemon & Lime		210,799		
Pummelo & Pummelo Hybrids		#	% Pummelo	% Total Nursery
1	Hirado Pum US 1-65	13,893	98	<1
2	Siamese Swt Pum DPI-203-16	15	<1	
3	Red Pum UF UKP-1	14		
4	Red Pum UF C4-11-19	14		
5	Red Pum UF C2-5-12	14		
6	Red Pum UF 5-1-99-5	14		
7	Pummelo UF N7-4	14		
8	Pummelette UF 5-1-99-2	14		
9	Pummelette UF KWP-1-1	14		
10	Pum X Gft UF 4-1	14		
11	Pummelo Hyb UF 914	38		
12	Other Pummeol Hyb	126	1	
Total Pummelo		14,184		

1953-2015 Report of Registered Citrus Nursery Propagations

Citrus Budwood Registration Program Begins 1/1/1953 (Data from Bureau Records)

Only registered propagations are counted 1953 -1996. Many nursery trees grown as unregistered during this time even though registered budwood might have been used.

Year	Orange	Grapefruit	Mandarin	Lemon & Lime	Other Citrus	Total (in database)	Number Reported in Annual Reports	Total column: Data for propagation figures are taken from submitted nursery plats.
1952-1953	1,270	154	332	0	0	1,756	0	615,006 certified buds were cut between 1953 and 6/30/1958. A number higher than reported in the totals here.
1953-1954	224	100	29	56	0	409	21,926	
1954-1955	2,331	67	115	0	0	2,513	1,767	
1955-1956	2,883	0	0	0	0	2,883	12,823	
1956-1957	12,954	4,455	1,851	2,679	0	21,939	18,849	In the early years, a smaller portion of the budwood cut was plated as the program was voluntary and not all nurseries returned plats. Only those propagations that were properly plated were designated as registered (certified until 1958/59) and reported in the totals. Numbers taken from Bud Cutting Reports would be much higher.
1957-1958	140,121	33,342	15,055	8	0	188,526	207,377	
1958-1959	553,457	71,152	74,326	15,693	100	714,728	670,109	
1959-1960	1,080,84	73,830	177,562	1,890	5,346	1,339,47	1,242,060	
1960-1961	955,921	30,460	111,269	6,739	13,04	1,117,43	629,233	
1961-1962	1,856,35	31,155	157,181	1,117	444	2,046,25	2,039,988	
1962-1963	1,277,58	85,293	232,200	2,193	553	1,597,82	1,631,993	
1963-1964	2,355,85	355,180	596,666	16,056	303	3,324,06	3,277,387	
1964-1965	2,178,10	635,437	623,556	4,315	4,565	3,445,98	3,462,585	
1965-1966	1,323,89	646,094	416,232	13,040	651	2,399,91		
1966-1967	835,538	316,569	140,555	17,073	15,91	1,325,65		1 Propagation numbers are taken from the amount cut starting in 1995-96, prior to this date the amount budded was used. Since 1995-96, the amount budded figure is used when numbers are divided by various rootstocks and amount cut is used when budded information is not available.
1967-1968	473,591	233,394	57,505	14,454	1,125	780,069		
1968-1969	361,765	193,951	83,325	7,490	1,297	647,828		
1969-1970	882,508	192,272	76,182	7,490	1,858	1,160,31		
1970-	1,054,53	477,122	119,765	8,388	171	1,659,98		
1971-1972	761,880	734,791	164,980	14,523	3,425	1,679,59		
1972-1973	749,654	695,375	68,002	1,431	5,046	1,519,50		
1973-1974	775,521	375,766	89,584	4,529	16,13	1,261,53		
1974-1975	851,628	294,351	163,144	22,268	2,220	1,333,61		
1975-1976	609,125	584,441	104,803	15,039	793	1,314,20		
1976-1977	1,060,79	260,685	138,860	851	1,486	1,462,67		Reported propagations in prior years were artificially low, as not all nurseries submitted bud usage and only plated buddings were counted. In 2014 we returned to use the amount budded unless that number was unavailable.
1977-1978	1,235,29	288,168	156,036	3,723	2,424	1,685,64		
1978-1979	1,866,28	155,576	67,544	206	872	2,090,48		
1979-1980	1,734,46	257,339	129,863	7,343	1,967	2,130,97		
1980-1981	2,324,94	462,507	165,583	8,348	1,907	2,963,28		
1981-1982	2,682,91	747,029	218,086	6,009	5,078	3,659,11		
1982-1983	4,322,69	352,756	370,184	13,209	7,224	5,066,07		
1983-1984	3,056,94	117,869	276,257	11,329	2,769	3,465,16		
1984-1985	3,716,20	155,075	184,764	4,432	7,648	4,068,12		
1985-1986	3,438,17	351,595	246,699	454	2,719	4,039,64		
1986-1987	4,440,70	1,058,155	680,611	7,246	5,809	6,192,52		Mandatory Budwood Registration [All nursery propagation counted]
1987-1988	3,773,36	983,494	651,205	34,299	12,16	5,454,52		
1988-1989	5,803,32	964,140	447,697	15,440	9,127	7,239,73		
1989-1990	4,218,15	454,648	361,561	3,777	2,278	5,040,41		
1990-1991	4,829,88	1,397,680	640,178	2,509	9,179	6,879,42		
1991-1992	3,318,11	738,103	540,650	5,015	7,412	4,609,29		
1992-1993	1,750,22	479,861	530,233	3,141	18,11	2,781,56		
1993-1994	2,128,43	556,895	355,374	26,276	11,38	3,078,35		
1994-1995	1,814,45	162,136	141,801	18,259	7,289	2,143,94		
1995-	3,302,62	230,078	250,701	16,305	24,30	3,824,00		
1996-1997	4,899,27	325,075	263,098	17,400	17,14	5,521,99		A data project was begun in 2004 to archive old records from the bureau in a database. This project draws data from several office record sources that frequently differ in the way they were calculated. New validated releases were tabulated in a separate book from registered propagations and have to be combined when entered into database tables. Project resulted in corrections made to some nursery propagation figures as these different records were reconciled. This project is now complete.
1997-1998	4,864,81	296,806	523,282	96,880	49,68	5,831,47		
1998-1999	5,273,98	180,939	354,493	100,691	30,05	5,940,16		
1999-2000	4,946,14	500,219	310,154	55,242	34,68	5,846,44		
2000-2001	4,710,20	540,484	249,044	48,498	27,54	5,575,77		
2001-2002	5,000,75	573,574	179,683	53,630	38,72	5,846,37		
2002-2003	4,288,07	332,870	196,937	54,867	25,40	4,898,15		
2003-2004	3,228,76	526,627	167,818	34,308	14,26	3,971,78		
2004-2005	1,386,81	542,182	131,360	49,770	35,13	2,145,25		
2005-2006	1,216,54	128,234	52,658	7,512	9,551	1,413,31		
2006-2007	2,362,82	128,146	52,417	26,530	22,54	2,592,46		183,146,053
2007-2008	3,069,51	261,696	146,757	34,740	34,18	3,546,89		
2008-2009	3,348,47	177,021	152,971	39,127	46,66	3,764,25		
2009-2010	2,391,375	222,613	248,215	73,982	65,001	3,001,18		
2010-2011	2,541,410	229,182	244,449	53,979	66,306	3,135,326		
2011-2012	3,172,966	369,924	287,778	58,929	51,452	3,941,049		
2012-2013	3,899,083	365,498	284,795	76,213	75,139	4,700,728		187,584,181
2013-2014	3,954,005	230,661	367,255	76,309	84,209	4,712,439		
2014-2015	3,655,090	81,666	526,655	113,465	61,252	4,437,879		
2015-2016	3,295,433	55,216	486,949	205,453	301,395	4,344,446		93,433

%	Historically used Rootstocks for Registered Trees										
Year	Carrizo	Cleopatra	Kuharske	Rough Lemon	Sun Chu Sha	Smooth Flat Seville	Sour Orange	Swingle	Volkamer	Misc	Total Trees
1953-60	0.0	7.7	Prior to 1997-98 Kuharske propagations are included with Carrizo	44.7	0.0	0.0	36.3	0.0	0.0	11.2	2,272,229
1960-61	0.0	8.2		29.3	0.0	0.0	52.2	0.0	0.0	10.4	1,117,433
1961-62	0.7	7.0		39.8	0.0	0.0	38.2	0.0	0.0	14.3	2,046,252
1962-63	0.7	7.7		45.1	0.0	0.0	25.4	0.0	0.0	23.3	1,597,821
1963-64	0.7	12.5		34.8	0.0	0.0	31.1	0.0	0.0	20.9	3,324,012
1964-65	0.4	12.2		37.0	0.0	0.0	30.3	0.0	0.0	20.2	3,445,980
1965-66	1.9	10.4		25.5	0.0	0.0	40.3	0.0	0.0	21.9	2,399,916
1966-67	1.0	7.6		37.5	0.0	0.0	43.8	0.0	0.0	10.1	1,325,650
1967-68	6.3	3.4		48.7	0.0	0.0	35.2	0.0	0.0	6.5	780,069
1968-69	6.5	6.0		38.9	0.0	0.0	33.2	0.0	0.0	5.3	647,828
1969-70	23.1	8.3		38.7	0.0	0.0	26.9	0.0	0.0	2.9	1,160,310
1970-71	23.0	7.1		35.9	0.0	0.0	29.4	0.0	0.0	4.6	1,659,983
1971-72	16.6	19.4		12.9	0.0	0.0	41.9	0.0	0.0	9.2	1,679,599
1972-73	29.1	11.9		1.5	0.0	0.0	41.9	0.0	0.0	15.6	1,519,508
1973-74	34.6	11.8		0.4	0.0	0.0	39.0	0.0	0.0	14.2	1,261,532
1974-75	46.2	9.5		0.6	0.0	0.0	32.1	1.6	0.03	10.0	1,333,611
1975-76	38.0	7.9		2.1	0.0	0.0	27.0	6.9	1.5	16.8	1,314,201
1976-77	51.5	8.0		1.9	0.0	0.0	18.9	3.5	1.2	15.0	1,462,676
1977-78	40.2	13.1		1.0	0.0	0.0	21.4	6.9	2.4	14.9	1,685,646
1978-79	40.1	10.0		1.7	0.0	0.0	25.2	5.8	3.3	13.9	2,090,481
1979-80	41.1	13.1		0.0	0.0	0.0	20.1	12.4	0.1	13.1	2,130,978
1980-81	45.4	6.2		0.3	0.0	0.3	28.2	11.4	2.3	2.4	2,964,085
1981-82	40.6	6.9		0.0	0.0	0.0	31.4	10.2	1.8	9.1	3,657,916
1982-83	33.8	10.0		0.0	0.0	0.1	38.0	11.8	2.5	3.8	5,049,889
1983-84	38.0	8.3		0.0	0.0	0.4	32.6	15.2	1.0	4.5	3,465,164
1984-85	28.6	8.3		0.0	0.0	0.0	28.5	30.1	1.5	3.1	4,068,128
1985-86	25.5	18.2		0.0	0.0	0.0	33.0	18.6	1.1	3.5	4,039,643
1986-87	35.2	19.9		0.0	0.0	0.0	31.0	6.7	3.1	4.1	6,181,653
1987-88	34.4	22.9		0.0	0.0	0.1	6.0	31.1	0.8	4.7	5,446,604
1988-89	19.4	18.8		0.1	0.0	0.1	3.5	50.2	1.2	6.7	7,239,744
1989-90	20.2	17.5		2.0	0.0	0.0	1.8	47.9	3.0	7.6	5,040,416
1990-91	18.8	16.2		1.6	0.2	0.0	1.9	58.6	0.9	1.8	6,879,429
1991-92	27.9	14.8		1.2	0.4	0.2	3.2	45.8	1.9	4.5	4,609,293
1992-93	17.8	16.6		3.1	3.4	0.2	3.0	51.3	1.1	3.4	2,781,569
1993-94	20.6	9.1		2.0	1.8	6.7	3.2	51.6	1.1	3.8	3,078,358
1994-95	23.2	7.8		1.3	2.9	10.2	0.4	45.2	2.9	6.2	2,143,943
1995-96	20.7	6.3		1.6	2.8	9.2	0.7	41.3	3.5	13.9	3,824,008
1996-97	25.9	4.3		1.6	2.4	6.1	0.2	46.2	5.5	7.8	5,521,998
1997-98	21.2	4.5		0.8	3.3	8.2	0.6	48.4	5.1	7.9	5,831,473
1998-99	22.9	5.4	0.5	1.1	2.1	5.2	0.5	46.2	7.7	8.4	5,940,162
1999-00	22.2	5.9	2.5	3.3	3.3	5.4	0.4	44.0	7.6	5.3	5,846,446
2000-01	24.3	5.1	2.9	0.3	2.5	6.6	.03	44.3	7.9	6.1	5,575,773
2001-02	19.7	3.4	3.8	0.3	1.2	10.1	.007	44.3	6.2	10.9	5,846,373
2002-03	20.7	4.5	8.8	1.1	1.6	5.1	0.01	45.6	4.5	8.1	4,898,157
2003-04	20.1	6.7	10.1	1.1	2.2	2.5	0.24	45.3	2.9	8.9	3,971,782
2004-05	15.1	7.6	18.6	0.2	1.8	0.5	0.5	37.8	4.9	13.0	2,145,259
2005-06	22.6	2.8	13.2	0.4	2.3	0.9	0.32	46.4	1.7	9.4	1,413,316
2006-07	16.1	2.1	11.9	0.2	1.1	0.7	1.4	58.4	1.6	6.5	2,592,466
2007-08	13.4	1.9	21.4	0.5	0.3	0.3	0.9	51.9	2.1	7.4	3,546,896
2008-09	17.8	2.9	24.0	0.6	.05	0.3	1.5	40.2	1.3	11.4	3,763,259
2009-10	14.0	3.5	16.5	0.3	1.0	0.2	7.5	44.9	2.2	9.9	3,001,186
2010-11	12.4	2.8	15.7	0.5	0.1	0.03	5.7	39.7	7.3	15.76	3,135,326
2011-12	7.9	3.3	17.3	0.5	0.8	0.3	8.1	37.0	4.5	20.3	3,941,049
2012-13	9.7	3.0	17.3	0.2	0.5	0.07	18.7	27.6	2.2	20.7	4,700,728
2013-14	3.6	3.8	18.3	0.6	0.2	0.03	14.3	22.3	1.7	35.2	4,712,439
2014-15	2.4	8.0	17.3	0.6	.03	0	9.8	12.4	1.8	47.7	4,438,128
2015-16	.5	4.6	19.1	.4	.1	.1	9.9	8.3	2.3	54.7	4,344,446

Rootstocks

2016		#	Rank	2015	2014	2013	2012
1	Kuharske	829,742	1	Kuharske	Swingle	Swingle	Swingle
2	X-639	566,764	2	X-639	Kuharske	Sour Orange	Kuharske
3	S/O	431,388	3	Swingle	Sour Orange	Kuharske	Sour Orange
4	US-897	372,752	4	Sour Orange	X-639	Carrizo	Carrizo
5	SWG	362,667	5	Cleopatra	US-802	US-812	X-639
6	US-942	357,968	6	US-802	US-812	X-639	Volkamer
7	US-802	328,194	7	US-897	US-897	US-897	Cleopatra
8	US-812	222,676	8	US-942	Cleopatra	Cleopatra	US-802
9	Cleo	201,994	9	US-812	Carrizo	US-802	US-812
10	UFR-04	106,906	10	C-35 Citrange	Volkamer	Volkamer	Kinkoji
11	VOLK	102,166	11	Carrizo	US-942	Kinkoji	US-897
12	Kinkoji	35,232	12	Volkamer	C-35 Citrange	Flying Dragon	US-942
13	UFR-03	26,943	13	Own Root	Research Stock	Sun Chu Sha	Sun Chu Sha
14	Carrizo	21,862	14	UFR-04	Unknown	C-35 Citrange	Rough Lemon
15	Rough Lemon	20,259	15	Kinkoji	Rough Lemon	Rough Lemon	Research Stock
16	Research	17,150	16	Rough Lemon	Kinkoji	US-942	Smooth Flat Sev
17	UFR-02	12,614	17	Unknown	Flying Dragon	Research Stocks	C-35 Citrange
18	UFR-17	8,172	18	UFR-03	Pon trifoliata	Smooth Flat Sev	Flying Dragon
19	UFR-16	7,502	19	Benton	Sun Chu Sha	Pon trifoliata .	Pon trifoliata
20	Sun Chu Sha	6,636	20	Pon trifoliata	UF-02	Benton	Murcott
21	Pon Tri	3,794	21	Sun Chu Sha	US-896	Unknown*	Ridge Pineapple
22	Smooth Flat Seville	5,480	22	Research Stock	UF-04	Bittersweet	Orlando
23	UFR-05	3,633	23	C-54 Carpenter	Dickinson	Macrophylla	
24	C-57	3,510	24	C-22 Bitters	C-54 Carpenter	Changsha	
25	C-54	2,550	25	UFR-17	UF-03	C-22 Bitters	
26	C-22	2,040	26	UFR-02	UF-17	C-54 Carpenter	
27	UFR-15	1,884	27	C-57 Furr	Own Root	Willits Citrange	
28	Flying Dragon	1,641	28	Dickinson	Benton	C-57 Furr	
29	Tissue Culture	877	29	Flying Dragon	Smooth Flat Sev	C-146	
30	Orange14	770	30	UFR-16	C-22 Bitters	Own Root	
31	Own	442	31	UFR-05	C-146	Orlando	
		4,066,208	32	Tissue Culture	UF-15		
			33	Grapefruit	UF-16		